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Docket No.: M4065.0840/P840
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Eric R. Fossum, et al.

Confirmation No.: 1901

Application No.: 09/298,306

Art Unit: 2615

Filed: April 23, 1999

Examiner: N. Tran

For: DIGITAL EXPOSURE CIRCUIT FOR AN IMAGE SENSOR

## REQUEST FOR RECONSIDERATION

U.S. Patent and Trademark Office
220 20th Street S.
Customer Window, Mail Stop Amendment
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

Dear Sir:

## INTRODUCTORY COMMENTS

In response to the Office Action dated September 27, 2004, please reconsider the application in light of the following remarks, which begin on page 2 of this paper.

## REMARKS

The application has been reviewed in light of the Office Action mailed September 27, 2004. Claims 1-16 and 18-23 remain pending. Reconsideration and withdrawal of all outstanding rejections is respectfully requested in light of the following remarks.

Claims 1 and 13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,822,222 to Kaplinsky et al. ("Kaplinsky") in view of U.S. Patent No. 6,282,462 to Hopkins ("Hopkins"). The rejection is respectfully traversed.

In order to establish a *prima facie* case of obviousness, the Office Action must meet three criteria: 1) "there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings;" 2) "there must be a reasonable expectation of success;" and 3) "the prior art reference (or references when combined) must teach or suggest all the claim limitations." M.P.E.P. 2143. Also required is that the "teaching or suggestion to make the claimed combination. . .must both be found in the prior art, and not based on applications disclosure. *Id.* citing *In re Vaeck*, 947 F.2d 488 (fed. Cir. 1991).

The present rejection which relies on Kaplinsky and Hopkins is not based on an objective motivation to combine the references, but rather relies on impermissible hindsight to reject the claimed invention. The claimed invention relates to a digital imaging device that is capable of self-adjusting an exposure for the image sensor based on a comparison of digital signals coming from the image sensor with pre-determined thresholds. As such, claim 1 recites an automatic exposure adjusting device comprising, *inter alia*, "a decision element, which is capable of making a decision to either increase a next frame of exposure of said image sensor or decrease a next frame of exposure."

Kaplinsky teaches the "control of the optical integration time" being performed digitally. Unlike the claimed invention which is capable of adjusting a next frame of exposure, however, Kaplinsky teaches that "the next frame's integration time is already set so that the decision to change integration time requires one frame time of latency." Col. 11, lines 40-42.

The Office Action attempts to cure this deficiency of Kaplinsky by stating that "Hopkins teaches an improved imaging system in which exposure parameters can be changed frame-by-frame basis without the latency. . .Therefore, it would have been obvious to one of ordinary skill in the art to improve the automatic exposure adjusting device in Kaplinsky in view of the teaching of Hopkins to apply any integration time adjustment to the image sensor in the next frame of exposure of the image sensor without the frame latency." Office Action, at 3. To combine Kaplinsky with Hopkins, however, is to ignore the explicit teachings of these two references, which teach away from such combination. M.P.E.P. 2145 X(D)(2) ("It is improper to combine references where the references teach away from their combination.") citing *In re Grasselli*, 713 F.2d 731 (Fed. Cir. 1983).

Kaplinsky teaches that the one frame of latency is necessary because "the next frame's integration time is already set." Thus, Kaplinsky explicitly teaches that the one frame latency is necessary, teaching away from combination with a reference that does not have the one frame latency. Neither does Hopkins provide a motivation to combine the references as suggested in the Office Action. In fact, Hopkins provides no teaching of how one of ordinary skill in the art would modify the M-WIP system taught by Kaplinsky as to eliminate the setting of the next frame's integration time. Rather, Hopkins relates only to "machine vision systems [which] can require images at unpredictable times," necessitating the inventive image controller to "decouple image acquisition from the transmission of the image to a host processor." See Abstract; Col. 2, lines 12-15. Accordingly, Kaplinsky and Hopkins, at best, provide not motivation to combine, and more likely, expressly teach away from the combination suggested in the Office Action to reject the present claims.

Thus, there is no objective suggestion or motivation "to modify the reference or to combine reference teachings" as necessary to establish a *prima facie* case of obviousness of the claimed invention. For at least these reasons, the withdrawal of the rejection of claims 1 and 13 is respectfully requested.

Claims 2-5, 7, 8, 11, 14-16, and 18-19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplinsky and Hopkins as applied to claim 1, and further in view of U.S. Patent No. 4,684,995 to Baumeister ("Baumeister"). The rejection is respectfully traversed.

Similar to claim 1, independent claims 14 and 16 each teach a device capable of increasing and/or decreasing an amount of "exposure for a next frame." Claims 1-5, 7, 8, 11, 15, and 18-19 each depend from one of claims 1, 14 and 16 and contain all of the claim limitations recited by the independent claims. Accordingly, for at least the reasons given above with respect to claims 1 and 13, the combination of Kaplinsky and Hopkins does not establish a *prima facie* case of obviousness of the claimed invention, as embodied by claims 2-5, 7, 8, 11, 14-16, and 18-19. For whatever Baumeister teaches regarding "most significant bits," Baumeister does not provide the deficient suggestion or motivation to combine the references. Accordingly, withdrawal of the rejection of claims 2-5, 7, 8, 11, 14-16, and 18-19 is respectfully requested.

Claims 6, 22, and 23 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplinsky, Hopkins, and Baumeister as applied to claims 2 and 16, and further in view of U.S. Patent No. 6,061,091 to Van de Poel et al ("Van de Poel"). The rejection is respectfully traversed.

Claims 6, 22, and 23 each depend from one of claims 1, 14 and 16 and contain all of the claim limitations recited by the independent claims. Accordingly, for at least the reasons given above with respect to claims 1 and 13, the combination of Kaplinsky and Hopkins does not establish a *prima facie* case of obviousness of the claimed invention, as embodied by claims 6, 22, and 23. For whatever Van de Poel teaches regarding the use of

a percentage to determine exposure, Van de Poel does not provide the deficient suggestion or motivation to combine the references. Accordingly, withdrawal of the rejection of claims 6, 22, and 23 is respectfully requested.

Claims 9, 10, 20 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplinsky, Hopkins, and Baumeister as applied to claim 2, and further in view of U.S. Patent No. 5,638,123 to Yamaguchi ("Yamaguchi"). The rejection is respectfully traversed.

Claims 9, 10, 20, and 21 each depend from one of claims 1 and 16, and contain all of the claim limitations recited by the independent claims. Accordingly, for at least the reasons given above with respect to claims 1 and 13, the combination of Kaplinsky and Hopkins does not establish a *prima facie* case of obviousness of the claimed invention, as embodied by claims 9, 10, 20 and 21. For whatever Yamaguchi teaches regarding the use of auto-exposure detectors, Yamaguchi does not provide the deficient suggestion or motivation to combine the references. Accordingly, withdrawal of the rejection of claims 9, 10, 20 and 21 is respectfully requested.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaplinsky, Hopkins, and Baumeister, and further in view of Van de Poel and Yamaguchi. The rejection is respectfully traversed.

Claim 12 depends from claim 1 and contain all of the claim limitations recited by the independent claim. Accordingly, for at least the reasons given above with respect to claims 1 and 13, the combination of Kaplinsky and Hopkins does not establish a *prima facie* case of obviousness of the claimed invention, as embodied by claim 12. For whatever Baumeister, Van de Poel and Yamaguchi teach regarding the detection of exposure for an image, none of these references provide the deficient suggestion or motivation to combine Kaplinsky and Hopkins. Accordingly, withdrawal of the rejection of claim12 is respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: December 22, 2004

Respectfully submitted,

By _____

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